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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/194,112 11/23/98 ONUKI

M 229-532PCT

EXAMINER

002292 QM22/0319  
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BLAU, S  
ART UNIT PAPER NUMBER

3711  
DATE MAILED:

03/19/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/194,112

Applicant(s)

ONUKI ET AL.

Examiner

Stephen L. Blau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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## DETAILED ACTION

### *Continued Prosecution Application*

1. The request filed on 31 January 2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/194,112 is acceptable and a CPA has been established. An action on the CPA follows.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9-12 are indefinite in that they contain ranges of properties outside of the ranges of properties of the claim they depend on. Claim 9 claims a Young's modulus up to 20,000 ✓  
kgf/mm<sup>2</sup> when the claim it depends on (Claim 1) claims a Young's modulus up to 12,000  
kgf/mm<sup>2</sup>. Claim 10 claims a Young's modulus up to 16,000 kgf/mm<sup>2</sup> when the claim it ✓  
depends on (Claim 1) claims a Young's modulus up to 12,000 kgf/mm<sup>2</sup>. Claim 11 claims a

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Young's modulus up to 20,000 kgf/mm<sup>2</sup> and a Vickers hardness beginning with 300 when the claim it depends on (Claim 5) claims a Young's modulus up to 12,000 kgf/mm<sup>2</sup> and a Vickers hardness beginning with 400. Claim 12 claims a Young's modulus up to 16,000 kgf/mm<sup>2</sup> when the claim it depends on (Claim 5) claims a Young's modulus up to 12,000 kgf/mm<sup>2</sup>.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-8, 11-13, 15, 17, 19, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peker.

Peker discloses a golf club head having a hitting face formed of a metallic amorphous metal, an amorphous alloy of zirconium base, Ni, Al, Cu, Hf, tensile strength 1.9 GPa (194 kgf/mm<sup>2</sup>) (Col. 4 Lns. 12-43), a material meeting the formula M(a)X(b) with  $65 \leq a \leq 100$  and  $0 \leq b \leq 35$  in the form of M(Zr/Ti/Be/Cu/Ni) of 100 (Col. 4, Lns. 13-16), a material meeting the formula Zr(c)M(d)X(e) with  $20 \leq c \leq 80$ ,  $20 \leq d \leq 80$ , and  $0 \leq e \leq 35$  in the form of Zr of 41.2, M(Ti/Be/Cu/Ni.) of 58.8, and X(Hf) of 0 (Col. 4, Lns. 23-27), and material meeting the formula

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Zr(c)M(d)X(e) with  $50 \leq c \leq 75$ ,  $25 \leq d \leq 50$ , and  $0 \leq e \leq 1$ . in the form Zr of 60, M(Al/Ni) of 40 and X(Hf) of 0 (Col. 4, Lns. 39-43). Clearly the hitting face material has a Young's modulus and a hardness and one skilled in the art in manufacturing a hard face with mixtures of elements of Zr/Ti/Be/Cu/Ni/Hf would have selected a composition having a suitable hardness, Young's modulus and tensile strength in which a hardness and Young's modulus which meets the relationships in claim 5 and 21, a Young's modulus of 5,000 to 12,000 kgf/mm<sup>2</sup>, a tensile strength of 105 to 175 kgf/mm<sup>2</sup> and a Vickers hardness of 400 to 1,000 HV are included.

The difference between the claims and Peker is that Peker does not disclose a Young's modulus of 5,000 to 12,000 kgf/mm<sup>2</sup>, a Vickers hardness of 400 to 1,000 HV, a tensile strength of 105 to 175 kgf/mm<sup>2</sup>, a relationship between Young's modulus and tensile strength as defined by claim 21 and a relationship of Young' modulus and hardness as defined by claim 5.

It would have been obvious to modify the face of Peker to have a Young's modulus and tensile strength as defined by the claims in order to have face which has a sufficient flex for a specific golfer. In addition, it would have been obvious to have a hardness as defined by the claims in order to have a face which maximizes the transfer of energy to a ball at impact.

6. Claims 1-4, 9-10, 14, 16, 18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peker as applied to claims 5-8, 11-13, 15, 17, 19, 21, and 23-25 above, and further in view of Aizawa.

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Peker lacks a face having a thickness of 1 to 3 mm. Aizawa discloses a head having a face insert with a thickness being 2-3 mm (Claims 7-8). In view of the patent of Aizawa it would have been obvious to modify the head of Peker to have a face with a thickness of 2 to 3 mm in order to ensure there is enough material of the face to have the desired flexibility and hardness to impact a ball.

### ***Response to Arguments***

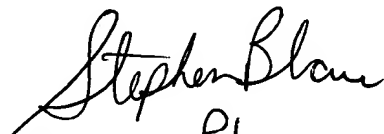
7. The argument that it is improper to use the patent of Peker since Peker fails to provide adequate basis to select the properties as defined in the claims is disagreed with. Peker discloses the alloys which meet the percentages as defined in the claims (Claims 14-19). Clearly the face of Peker will have a Young's modulus, tensile strength and hardness. Since the material of Peker is substantially the same as the material claimed by the applicant in composition, it would be obvious to have the face of Peker having substantially the same properties as claimed. The logic being that if the alloy of Peker has the required percentages as required in the claims in producing an alloy, then similar materials will have the similar properties.

### ***Conclusion***

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Jeanette Chapman whose telephone number is (703) 308-1310. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858.

slb/ 16 March 2001

  
Stephen Blau  
examiner  
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